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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,737	09/02/2005	Nikolaus Markert	3284	1970

7590 08/31/2010

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EXAMINER	
VU, HOANG-CHUONG Q	
ART UNIT	PAPER NUMBER
2476	
MAIL DATE	DELIVERY MODE
08/31/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,737	MARKERT ET AL.	
	Examiner	Art Unit	
	HOANG-CHUONG Q. VU	2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims: Claims 1-13 are currently pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1, 3-7, 9-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pekarske (5,146,452) in view of Annunziata et al. (4,701,630) and Agne (7,616,339).

Regarding claim 1, Pekarske discloses a communication system comprising first and second control and/or drive networks (11, 12) having network nodes (1, 2, 3, 4, 5) **(see Fig. 6, first network includes nodes 122, 126; second network includes 120 and 124)**, wherein each of said first and second control and/or drive networks (11, 12) has one master control unit connected to said network nodes **(Fig. 6; master node 122, and master node 124)**, wherein said master control units are connected to a database

for delivering external commands for configuring the networks are delivered **(col. 3 lines 17-18; any node (including master) having switching capability along with data storage to operate) (Fig. 1 shows a switching node with database and administrative controller) (col. 7 lines 24-31; command is added to switch interrupted traffic to new path, thus affecting the network topology similar to Fig. 6 which is shown with a fiber cut)**, wherein for operating industrial machines, control and/or regulating signals exchanged between the network nodes via a closed ring-like signal line (6, 7) **(see Fig. 5; signals are exchanged between network nodes 122, 124, 126, 128 via a closed ring-link line)**, wherein a first one of the network nodes exchanges signals with at least one further network node (1, 3) over a bidirectional signal path (10) **(see Fig. 5; network node 128 may exchange signals with network nodes 124 and 126 over a bidirectional signal path 120)**, wherein at least one of said network nodes has a switchover unit (8), wherein the switchover unit (8) is configured to communicate with two further network nodes (1, 3) via two bidirectional signal paths (10) **(see Fig. 1 shows a single node includes switch 64 which comprises send and receive ports connected therein; Fig. 5 shows the communication between nodes via bidirectional path 120)**, wherein said switchover unit is configured to be implemented via master/slave control units and wherein a switch position of said switch over unit is alterable **(see col. 5 lines 5-23; nodes (126, 128) may be altered to provide capabilities of master for terminating the loop, interrupted communication flow is reconnected via alternative paths (position of the switch is changed based on the fiber cut))**, wherein the switchover unit (8) in a first switching

position connects the two signal paths (10) through the network node (2) **(see Fig. 5; switch 64 in node 128 connects the two signal paths thru network node 128)**, wherein the switching unit (8) in a second switching position interrupts the communication between the two signal paths and connects two signal courses (9) of at least one bidirectional signal path (10) to one another **(see Fig. 6; the two signal paths are interrupted and the switch in node 128 can connect two signal courses of at least one bidirectional signal path 120 to one another)**, wherein the communication system is configured into different networks (11, 12) via at least one predetermined connection of the switchover unit (8) of at least one of the network nodes (1, 2, 3, 4, 5) to a switchover unit (8) of the at least one further of the network nodes (1, 2, 3, 4, 5), and the networks (11, 12) have separate signal lines (6, 7) from one another **(see Fig. 6; the communication system can be configured into first network having network nodes 122, 126 and second network having network nodes 128, 124; each network has separate signal lines (120 for first network, 130 for second network); Fig 1 shows each node in the communication system includes switch 64 (send and receive ports) to connect between nodes; thus the switch in node 122 connects to the switch of the further nodes 126 to create a first network and the switch in node 128 connects to the switch of the further network node 124 to create a second network when there is a fiber cut shown in Fig. 6)**. However, Pekarske may not explicitly teach two signal paths are connected via conduction of signals; and the communication configured to operate said industrial machine in the form of a printing machine. Annunziata et al. from the same field of endeavor teach a

communication network for connecting terminal equipments such as printers in a ring like or closed loop **(see col. 1 lines 41-47)** having conduction path between the equipments **(see col. 1 lines 24-26, 48 or col. 2 lines 9-11)**. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching known to Annunziata et al. in the system of Pekarske to connect bidirectional paths 120 in the manner of conduction. One of ordinary skill in the art would have motivated to do so to since conduction of signals between conducting members can easily be separated to enable interruption of communication path in the teaching of Pekarske. In addition, Agne from the same or similar field of endeavor teaches an industrial machine in the form of a printing machine, comprising a ring-like communication network (see col. 4 lines 43-51). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the ring network taught by Agne to operate in a printing machine having drive systems and regulators in the ring-link network taught by Pekarske and Annunziata et al. The motivation or suggestion to employ the communication ring network in a machine of a printing form is to provide a transmission system which can be used for production machine and that a disturbance in a machine element (printing units) can be reported immediately thus the machine downtimes can thus be minimized (col. 2 lines 13-23).

Regarding claim 3, Pekarske further teaches the communication system as recited in claim 1, wherein a network node (1, 2, 3, 4, 5) is connected to a control unit (23) **(Fig. 1 shows a single node connected to a control unit 12)**.

Regarding claim 4, Pekarske further teach the communication system as recited in claim 1, wherein each network (11, 12) has one control unit with a master function and at least one control unit with a slave function **(see col. 13-21 and Fig. 6; network node 126 in first network and network 128 in second network with a temporary master function to communicate with remaining nodes (slave function) on the loops)**.

Regarding claim 5, Pekarske further teaches the communication system as recited in claim 1, wherein the switchover unit (8) is switchable via a software controller **(see Fig. 1 and col. 3 lines 20-58; the switch 64 and other switches in a node is controlled via controller unit 12 with software algorithms (col. 2 lines 67-68))**.

Regarding claim 6, Pekarske further teaches the communication system as recited in claim 1, wherein one network (11, 12) is configured in accordance with a leading axis and the dependent following axes of a controller of a machine system and wherein control units which execute control tasks as a function of the leading axis and control units that execute control tasks as a function of following axes of the leading axis are combined into one network (11, 12) **(see Fig. 6 and col. 5 lines 5-23; due to a cut in the ring, first network is configured with a temporary master 126 (leading axis) and remaining nodes 122 (following axes) to implement plan where the interrupted communication channels are reconnected. The master and remaining nodes are combined into one network (first network comprising nodes 122, 126 communicate via path 130 and second network comprising nodes 128, 124 communicate via path 120))**.

Regarding claim 7, Annunziata et al. further teach the communication system as recited in claim 6, wherein the machine system is a printing machine (18) with a plurality of printing units (21) **(see Abstract and col. 1 lines 41-47; configuration of a communication network within offices such as a network of interconnecting printers)**. Thus, it would have been obvious to one of ordinary skill in the art to utilize machine system comprising the network of connecting printers as taught by Annunziata et al. One of ordinary skill would have motivated to do so to implement the network of printer units in an office as a closed ring like network as taught by Pekarske. The motivation for doing so is to easily manage the network and perform wraparound when a failed machine is detected.

Regarding claim 9, Pekarske further teaches the communication system as recited in claim 7, wherein control units (1, 2, 3) of a plurality of nodes (18, 20) are connected to one network (11, 12) and are supplied by the network with control signals **(Fig. 1 shows a control unit 12 in a single node. Fig. 6 shows nodes (with control units 12) connected to one network and are supplied by the network with control signals (col. 4 lines 28-31))**, wherein a control unit performs a master function for further control units, wherein said further control units which perform slave functions **(Fig. 6; temporary master with control unit 12 (Fig. 1) performs as a master when there is link failure and other nodes receive signal from the temporary master to implement such plan)**.

Regarding claim 10, Pekarske discloses a method comprising the following steps: providing a communication system, said communication system comprising first

and second control and/or drive networks (11, 12) having network nodes (1, 2, 3, 4, 5) **(see Fig. 6, first network includes nodes 122, 126; second network includes 120 and 124)**, wherein each of said first and second control and/or drive networks (11, 12) has one master control unit connected to said network nodes **(Fig. 6; master node 122, and master node 124)**, wherein said master control units are connected to a database for delivering external commands for configuring the networks are delivered **(col. 3 lines 17-18; any node (including master) having switching capability along with data storage to operate) (Fig. 1 shows a switching node with database and administrative controller) (col. 7 lines 24-31; command is added to switch interrupted traffic to new path, thus affecting the network topology similar to Fig. 6 which is shown with a fiber cut)**, exchanging control and/or regulating signals between the network nodes via a closed ring-like signal line (6, 7) for operating industrial machines **(see Fig. 5; signals are exchanged between network nodes 122, 124, 126, 128 via a closed ring-link line)**, wherein a first one of the network nodes exchanges signals with at least one further network node (1, 3) over a bidirectional signal path (10) **(see Fig. 5; network node 128 may exchange signals with network nodes 124 and 126 over a bidirectional signal path 120)**, wherein at least one of said network nodes has a switchover unit (8), wherein the switchover unit (8) is configured to communicate with two further network nodes **(I,** 3) via two bidirectional signal paths (10) **(see Fig. 1 shows a single node includes switch 64 which comprises send and receive ports connected therein; Fig. 5 shows the communication between nodes via bidirectional path 120)**, wherein said switchover unit is configured to be

implemented via master/slave control units, and wherein a switch position of said switch over unit is alterable **(see col. 5 lines 5-23; nodes (126, 128) may be altered to provide capabilities of master for terminating the loop, interrupted communication flow is reconnected via alternative paths (position of the switch is changed based on the fiber cut))**; connecting via the switchover unit (8) in a first switching position the two signal paths (10) through the network node (2) **(see Fig. 5; switch 64 in node 128 connects the two signal paths thru network node 128)**; interrupting by the switching unit (8) in a second switching position the communication between the two signal paths and connects two signal courses (9) of at least one bidirectional signal path (10) to one another **(see Fig. 6; the two signal paths are interrupted and the switch in node 128 can connect two signal courses of at least one bidirectional signal path 120 to one another)**, wherein the communication system is configured into different network via a suitable connection of the switchover units (8) of the network nodes (1, 2, 3, 4, 5),and wherein the networks (11, 12) have separate signal lines (6, 7) from one another **(see Fig. 6; the communication system can be configured into first network having network nodes 122, 126 and second network having network nodes 128, 124; each network has separate signal lines (120 for first network, 130 for second network); Fig 1 shows each node in the communication system includes switch 64 (send and receive ports) to connect between nodes; thus the switch in node 122 connects to the switch of the further nodes 126 to create a first network and the switch in node 128 connects to the switch of the further network node 124 to create a second network when there is**

a fiber cut shown in Fig. 6), and performing a change in the configuration of the networks (11, 12) by means of software commands **(see col. 5 lines 34-64; algorithm is executed to generate commands to switch to new paths. Fig. 6 shows a change in the configuration when the link fails (fiber is cut))**. However, Pekarske may not explicitly teach two signal paths are connected via conduction of signals. Annunziata et al. from the same field of endeavor teach a communication network for connecting terminal equipments such as printers in a ring like or closed loop **(see col. 1 lines 41-47)** having conduction path between the equipments **(see col. 1 lines 24-26, 48 or col. 2 lines 9-11)**. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching known to Annunziata et al. in the system of Pekarske to connect bidirectional paths 120 in the manner of conduction. One of ordinary skill in the art would have motivated to do so to since conduction of signals between conducting members can easily be separated to enable interruption of communication path in the teaching of Pekarske. In addition, Agne from the same or similar field of endeavor teaches an industrial machine in the form of a printing machine, comprising a ring-like communication network (see col. 4 lines 43-51). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the ring network taught by Agne to operate in a printing machine having drive systems and regulators in the ring-link network taught by Pekarske and Annunziata et al. The motivation or suggestion to employ the communication ring network in a machine of a printing form is to provide a transmission system which can be used for production machine and that a disturbance in a machine element (printing units) can be

reported immediately thus the machine downtimes can thus be minimized (col. 2 lines 13-23).

Regarding claim 11, Pekarske further teaches the method as recited in claim 10, wherein if a malfunction occurs upon data exchange, a change in the configuration of the network is performed in order to exclude defective signal communication and/or a defective network node or a control unit from one network (11, 12) **(see col. 5 lines 5-64; if there's a cut in the ring, the temporary masters send signal to remaining nodes to indicate the failure span and to implement the recovery or reconnect via alternate paths; when a failed event occurs, the failed segment is terminated (excluded))**.

Regarding claim 12, Pekarske further teaches the method as recited in claim 11, wherein the configuration of the network is performed as a function of a configuration of a plurality of nodes (see Fig. 5; network is reconfigured when there is a cut in the ring (fiber cut)), However, Pekarske fails to explicitly teach configuration of a plurality of machines in a processing group in the form of a printing machine (18). Annunziata et al. from the same or similar field of endeavor teach configuration of a plurality of machines in a processing group, in particular a printing machine (18) **(see Abstract and col. 1 lines 41-47; configuration of a communication network within offices such as a network of interconnecting printers)**. Thus, it would have been obvious to one of ordinary skill in the art to utilize the network of connecting printers in the teaching of Pekarske. One of ordinary skill would have motivated to do so to reconfigure printers' network when there is a failed machine occurs in the closed ring

like network as taught by Pekarske. The motivation for doing so is to manage the network and perform wraparound when a failed machine is detected.

Regarding claim 13, Pekarske further teaches the method as recited in claim 12, wherein if a malfunction occurs in a machine of the processing group, the network node which supplies the defective machine with control signals is excluded from the network (11, 12) **(see col. 5 lines 34-63; the apparatus detects network event such as a failed segment is identified. A new path is established for the traffic)**.

4. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pekarske (5,146,452) in view of Annunziata et al. (4,701,630) and Agne (7,616,339), and further in view of Jackson et al. (7,330,661).

Regarding claim 2, Pekarske further teaches the communication system as recited in claim 1, wherein two network nodes (3, 4) of two networks (11, 12) are each connected to one another via two lines (9) between the two network nodes (3, 4) **(see Fig. 5 network nodes 126, 128 are connected to one another via two lines 120)**. However, Pekarske , Annunziata et al., and Agne may not explicitly teach each mechanically connected to one another. Jackson et al. from the same or similar field of endeavor teach computer networks includes two or more devices that are mechanically connected **(see col. 1 lines 13-14)**. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching of Jackson to connect network nodes 126, 128 of Pekarske mechanically. One of ordinary skill in the art would have motivated to so provide a way to connect devices that are in a relatively close geographical proximity (see Jackson col. 1 lines 19-21).

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pekarske (5,146,452) in view of Annunziata et al. (4,701,630) and Agne (7,616,339), and further in view of Monse et al. (7,013,328).

Regarding claim 8, Pekarske further teaches the communication system as recited in claim 7, wherein a control unit (1) is connected to a further ring line (14) (control unit 12 in a single node (Fig. 1) where each node connects to a ring line 120 (Fig. 5)); However, Pekarske fails to explicitly teach that the further ring line (14) is connected to drive mechanisms (13) of a printing unit (21); and that the control unit (1) controls the drive mechanisms (13) chronologically synchronously. Monse et al. from the same or similar field of endeavor teach that the further ring line (14) is connected to drive mechanisms (13) of a printing unit (21); and wherein a control unit (1) controls the drive mechanisms (13) chronologically synchronously **(see Abstract; drive units in network nodes (printing machines) are connected to a ring structure; drive units are controlled in an electrical drive system chronologically (master/slave principle in a ring) synchronously)**. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching of Monse et al. in the system taught by Pekarske, Annunziata et al., and Agne to provide drive units in printing machines to be controlled in a ring like structure. One of ordinary skill in the art at the time would have motivated to do so to increase reliability and flexibility in the drive system of a printing machines network since an individual machine part or machine system can be controlled and switched off without effecting the rest of the machine (see Monse et al. col. 2 lines 24-35).

Response to Remarks/Arguments

6. Applicant's remarks/arguments with respect to amended claims 1 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Examiner's Note: Independent claims 1 and 13 have been amended to further define an industrial machine in the form of a printing machine, and that the communication system configured to operate the printing machine. However, this recitation is merely for intended used purpose; that is the communication system (ring-like) is for operating the printing machine system. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOANG-CHUONG Q. VU whose telephone number is (571) 270-3945. The examiner can normally be reached on Monday through Thursday 8:30 AM to 6:00 PM EST. and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYAZ R. SHEIKH can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. V./ 08/23/2010 /Ayaz R. Sheikh/

Examiner, Art Unit 2476

Supervisory Patent Examiner, Art Unit 2476